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AUTHOR Hudson, Tim
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ABSTRACT

Based on the idea that anyone who is interested in making entertaining and informative presentations in educational settings is interested in multimedia, this practical guide offers tips for communication (and other) teachers who want to integrate and program interactive multimedia into their courses. The guide suggests that teachers on limited budgets begin by getting: (1) a personal computer; (2) an authoring system (a set of software referred to as a program); and (3) a VCR or Laserdisc player that interfaces with both the personal computer and the authoring system. The guide also recommends specific computer programs and hardware. (NKA)

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Teaching with Interactive Multimedia

from a panel presentation to the
annual conference of the
Western States Communication Association
titled
"Integrating Computers and Multimedia into Communication Education"
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Tim Hudson
Associate Director
School of Journalism & Mass Communication
The University of Oklahoma
Norman, Oklahoma

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Interactive Multimedia -- what is it?

Multimedia is a nifty, new-age catch-phrase for what audio/visual presentation professionals have been doing for decades.

If you make a presentation using two or more of the following: video, slides, graphics, computer graphics, printed text, computer text, recorded audio, or digitized sound, then you are using multimedia.

The reason these presentation media are getting so much press and attention these days (as I see it) is that they are so much easier to prepare and use in multiple, preset, programmed combinations. It's easier because we can use personal computers to design and control the complex intertwinings of multimedia presentations.

If you're interested in making entertaining and involving PRESENTATIONS, then you're interested in multimedia.

That's not my chief concern. I'm more interested in the other half of the equation -- interactivity.
Interactive multimedia means people can individually control, manipulate, learn from, and change the outcome of complex multimedia "programs."

If you have a truly interactive multimedia program on the topic of say, "Snowmobiling," then ten people could sit down, individually at the interactive "kiosk" and have ten distinctly different learning experiences. One might explore the mechanics, dynamics and physics of snow mobility - complete with graphical tests to see if he can put together and take apart the engine of an Arctic Cat. Another might be interested in the history and development of snowmobiling as sport and recreation. Still another might just want to see what it's like to start-up, drive, crash and roll a snowmobile, complete with full-motion video and sound, but with no personal risk of frostbite or injury.

If you've spent $100 on a so-called "multimedia" system, and you can't design programs with that kind of flexibility and interactivity -- from scratch -- then you've been sold a bill of goods.

People are doing great things with compact discs, optical storage alternatives, and computer animation products. We're on the verge of "stand-alone" or "boxed" interactive multimedia devices. That means you won't need a separate computer and video playback device anymore. The

unit will be all-in-one, just for multimedia. Personally, I like the fact that I can use my Macintosh for a zillion other things besides interactive multimedia. The same goes for my VCR and the school's laserdisc player. I know how to put them together when I need them.

Don't get me wrong, I'm all for leading-edge development, and I try to stay on top of it. But too little attention is being paid to the important stuff: getting people like you and me involved in everyday, full-blown writing and design of interactive multimedia programs. Programs that can and do improve the learning curve. If you aren't writing programs, small, interesting, limited-use, personal, even disposable programs, then you're not using interactive multimedia to its current capacity. We should be as comfortable with interactive programming -- not "use" -- but **programming**, as we are with typing, or operating a camcorder. Personally, I think the camcorder is more difficult to master.

CD-ROM, CD-I, J-PEG, M-PEG, MPC, and OMDR are all terrific abbreviations, standing for outstanding new developments in interactive multimedia development. Unfortunately, unless you have an unlimited budget, you won't be able to use any of them this week, next week , next month, or even in the next couple of years to create self-designed, course-specific educational interactive multimedia software.

But take heart, it can be done with low-cost technology very similar to what you've got on your desk or in your media center right now. With some detective work and a little elbow-grease, you can easily get to the point where you could tape an episode of NOVA on one night, write a flexible interactive multimedia program around it the next day, complete with graphics, animation, sound effects, test questions, and immediate scoring, use it in class for a week or so, and, because you erase the videotape when each student has run the program, you haven't even violated any copyright regulations.

Here's how you can get going:

1. Get a personal computer -- one you can use for all your teaching chores, but which can also be used for multimedia programming.

I use a Macintosh. The Mac LC is only a little more expensive than the Classic, and offers color, and a more traditional screen shape.

2. Get an authoring system. This is a set of software often referred to as a program. But it's really more like a language than a program, because you

use it to write other programs. If you already use Hypercard -- you can go with that, but there are a couple of other systems which are actually easier to learn and use. Most of the authoring systems are ICON-BASED, which means instead of memorizing a bunch of code and entering character strings, the "writing" process is more like putting together a puzzle or drawing an organizational or flow chart. It's easy, really, much easier than BASIC, or Pig Latin.

WARNING: Be careful not to get a Multimedia design program that is primarily geared at building PRESENTATIONS. In an educational setting you are after INTERACTIVITY and user flexibility more than 2-billion color spline-graphics, or "Morph" animation. Leave that other stuff to the sales people.

I recommend: Coursebuilder, by Telerobotics International, or Authorware Professional by Authorware. Individual copies are much cheaper than site licenses, and unless a whole bunch of your colleagues will be actually DESIGNING the programs, you won't need the site license. We at O.U. have a site licence for Coursebuilder because we actually teach courses in how to write interactive multimedia programs. If only one or two people at your school will do the writing, no matter how many teachers and students actually USE the resultant programs, you won't need a site license.

3. Get a VCR or a Laserdisc player that interfaces with BOTH your computer, and your authoring system. (And it doesn't have to be an expensive one).

The advantages of a laserdisc player are: faster access to the video, and sharper images - especially still images.

The advantages of videotape (just about any format, but I recommend S-VHS or Hi-8) are: YOU CAN RECORD ON IT, price, wide availability of pre-recorded material (practically on every block), YOU CAN RECORD ON IT, universality, price, and did I mention YOU CAN RECORD ON IT.

While I do use commercial laserdiscs from time-to-time, I almost always use videotape, simple cheap VHS or 8mm videotape for interactive projects. I'm vain enough to think that my teaching strategies are better, or at least more appropriate for my students than those of commercial laser-disc producers. And talk about flexibility -- try to do that NOVA - TV show thing with your laserdisc machine.

Oh, and once you get the hang of programming, you can overcome most of the pitfalls of linear videotape. For example, instead of having the tape pause on a still picture, record the picture in a still mode on the tape for several seconds during pre-production. Also, if it is likely a particular portion of the video will be needed for review several times throughout the computer program, record that sequence at several different strategic places on the videotape. That way, when the computer goes looking for it , it won't always have to rewind way back to the beginning of the tape.

For VCRs, I recommend any of the Sony decks that accept the RS-232 input, or that have the "control-L" (also known as "remote") input jack. The Contol-L models are the cheapest, at consumer level prices, but are not as frame accurate as the others. I've had quite satisfactory results with a Sony, (control-L) portable 8mm vcr/monitor, a Mac Portable computer, and Coursebuilder. I take this unit on the road, and can have it set-up, anywhere there's power, in under five minutes.

Still, my next VCR purchase will probably be one of the new computer-addressable S-VHS models, like the PC VCR by NEC.

The cheaper "Control-L" VHS decks can be found for a low of about $300, and the PC-VCR lists for $2400.

As for laserdisc players, any of the computer-addressable models will work. Sony, Phillips, and Pioneer are major suppliers. Expect to spend about $1000 for one with all the features you'll need.

Sure there are Compact Disc-type products available for interactive, but folks, they just haven't worked out the bugs yet, and do you really want to be the first on the block? . . .

By the time they get it perfected, and recordable, there'll be some better, faster, more complete storage material -- maybe even in gelatin form.